

lantic, Jersey, Dixie, Stanley, Burlington, Darrow, Berkeley, Ivanhoe, Blueray, Bluecrop and Earliblue.

TAMARILLO (*Cyphomandra crassifolia* (Syn.: *C. betacea*))

Cultures are incubated under the same conditions as the blueberries. There have been no modifications to the procedures outlined last year (1). Plants which came out of culture in March, 1979, were grown in a glasshouse and flowered in November, 1979, and fruit ripened in the autumn.

There is considerable interest in a new selection of a yellow tamarillo released by the Division of Horticulture and Processing, DSIR, Auckland. This cultivar has been put into culture and proliferating cultures have been distributed to several nurseries who are now in the process of multiplying this new cultivar.

LITERATURE CITED

- 1 Cohen, D. and D Elliott 1979 Micropropagation methods for blueberries and tamarillos *Proc Inter Plant Prop Soc* 29:177-179

THE ROLE OF THE ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE IN HORTICULTURAL EDUCATION AND EXAMINATION

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Historical development. An understanding in a concise manner of the origins and purpose of the Royal New Zealand Institute of Horticulture is important in reviewing the Institute's role in horticultural education.

As early as the turn of the century the Department of Agriculture was training four young orchard instructors at the State Horticultural station, Waerenga (now Te Kauwhata). Because this station began supplying fruit trees, trees, shrubs and hedge plants to growers, the nurserymen of the time banded together to protest this movement by the State. The outcome was the formation in 1904 of the New Zealand Nurserymen's and Seedsmen's Association.

It was at the conference of the Nurserymen's Association in Wellington in 1916 that Mr. A.H. Shrubshall gave a paper on the subject of "Education in Horticulture." From this beginning the idea of horticultural training began and the need evolved for an

organisation to put the idea into action.

Between 1916 and 1922 further forays into horticultural education were made by such organisations as "The N.Z. Fruit-grower" (1919), "The N.Z. Association of Nurserymen" (1920) and the short-lived "New Zealand Bud Selection Committee" (1922). It was at the first annual conference of the New Zealand Bud Selection Committee that the proposed rules of a yet to be formed New Zealand Pomological Board were read. The objectives were bold and idealistic. However, at this meeting, instead of the Pomological Board being established, the words "New Zealand Institute of Horticulture" were inserted and the Institute was born.

An objective which has become a primary activity of the Institute since its inception has been "to promote and assist horticultural education."

The first recorded reference to any sort of formal training on a New Zealand-wide basis was in 1922 when at the N.Z. Nurserymen's Conference in Taranaki a remit was discussed to set up a "Dominion School of Horticulture." The mover of the remit was a Scotsman, Mr. Bobby Nairn but it was the Englishman, Mr. A.H. Shrubshall who had really blazed the trail in the intervening years. At subsequent conferences horticultural education and the need for a qualification in horticulture were discussed but not until 1927 was an official diploma gazetted through Parliament.

A scheme of examination had been designed stating that "the Diploma should be a guarantee of proven ability." The first examinations leading to the National Diploma in Horticulture (N.Z.) were held in 1929.

As early as 1928 moves were under way to establish formal lectures at Technical Schools (as they were then known) provided sufficient numbers of horticultural students could be registered, to justify the payment of lecturers. It is interesting to note that because the number of registered students in horticulture were less than 60 in 1931, no correspondence lessons could be arranged from the Correspondence School in Wellington. The Education Department reply stated that the Government was too busy dealing with the economic depression.

In 1932 the Examining Board of the Institute decided to ask the Education Department to provide for the teaching of Botany and General Science in all post primary schools. Not until 1946 was this to be introduced by Government.

At an Executive meeting in 1936 the Institute decided to approach the University of New Zealand asking for the establishment of a horticultural course at Massey College. But it wasn't until 1943 that the Principal of Massey advised the Institute that it would be offering instruction in horticulture for the Institute's

examinations. Lincoln College proposed setting up a course of instruction in horticulture for returned servicemen.

By 1946 Lincoln College had established its own courses leading to degree and diplomas in horticulture. Massey University began its diploma and degree courses two years later. The Chairs in Horticulture were set up at Massey in 1963 and Lincoln in 1965.

Of much significance to the Institute in 1943 was the introduction of correspondence lessons in horticultural subjects by the Department of Education through the Technical Correspondence School. (Now the Technical Correspondence Institute.)

The apprenticeship system of training in horticulture began in 1938 and a large number of apprentices continue on after gaining their Trade Certificate to pursue the N.D.H.

The partnership between the T.C.I. and the Institute's examination system has evolved into a most successful dichotomy. The T.C.I. retains two positions on the Institutes Examining Board and very close and harmonious contact is maintained between the two organisations. It is vital that this remains so for the benefit of students and for the employing industries concerned.

These brief notes indicate the historical role that the Institute has played in pioneering horticultural training, education and examination since its inception in 1922.

Sound Policies. Some basic principles and policies which have evolved and been adhered to right up to the present time are worth discussing.

Firstly, the examination of the Institute's students, who are taking the various certificates and diplomas, has become a major responsibility. Over the years there has been continual review and revision to meet changing needs. It must be noted that the Institute provides a system of examinations which lead to recognised qualifications. It does not train or educate in a formal sense. Its primary role is to guide students, to monitor their progress, to assist them in their special subject areas and to help them through the study and presentation of their theses.

Secondly, the Institute has at all times upheld the standard of its examinations. Occasionally pressure has been brought to bear to allow more passes but at no time has the Examining Board faltered in its belief that the qualifications should be "a guarantee of proven ability." This policy has been supported over the years, not only by those who have been successful in the examinations, but also by those who began the long road of study.

Thirdly, the great strength of the National Diploma in Horticulture has been in its continued emphasis on the practical side

of horticulture. Because the professions and industry of horticulture is very much a "doing" activity the need for excellence in horticultural operations, fortunately, has never been lost sight of. Perhaps the recognition of this aspect of horticulture has been one of the reasons why enrolments to take the certificates and diplomas has continued to increase almost at an alarming rate.

Fourthly, the system of approved practical placement of students and the requirement of full time horticultural work while studying has ensured that a full understanding of theory and practice is gained. This combination has produced a dedicated horticultural craftsman enabling the holder of an N.D.H. to command respect and recognition in any field of either commercial or amenity horticulture.

Fifthly, it has been the policy of the Institute to maintain links as closely as possible with the horticultural producer groups who employ their students. Up until 1971 there was one basic Diploma in Horticulture with specialisations in certain disciplines. However, after prolonged negotiations with the major producers, namely, the fruit industry, the vegetable and produce growers industry and the nursery industry, separate National Diplomas were introduced. The fourth and general diploma was maintained particularly to serve the amenity horticulture area. This general diploma today draws the greatest number of students but the N.D.H. (Nursery) has a significant following.

Horticultural Cadet Training. In 1976 there began in the Waikato-Bay of Plenty area a horticultural cadet training scheme to serve the rapidly expanding sub-tropical fruit industry. Notably the kiwifruit industry was spear-heading this development. The cadets are part of the Agricultural Training Council farm cadet scheme but last year they became horticultural cadets in their own right.

Cadet-ship is over a period of three years with block-courses, day release tuition and T.C.I. correspondence being given. Already cadet training committees have been set up in other centres, namely Hawkes Bay, Nelson, Otago and Auckland. Further committees are programmed for Gisborne, Northland, Taranaki, Southland and Canterbury.

The Institute of Horticulture is the Examining Authority for the Certificate in Horticultural Practice with oral and practical examinations now being held in Tauranga, Hawkes Bay and Otago. Enrolled cadets in 1980 totalled 209 and in 1981 there will be 276.

The Institute's role in the cadet training scheme is the examination requirements and provide the moderation required to ensure that a uniform qualification is achieved throughout New Zealand.

The Present Situation. While a claim can be made for the success of the N.D.H. system of training and examination it must be recognised that over the past five or six years there has been rapid acceleration in horticultural interest on a nation-wide scale.

The number of students who are taking or have taken examinations of the Institute over the past three years topped the 816 mark this year. The growth pattern continues not only with the Institute's students but also with the Universities.

Students registered with the Institute total considerably more than both Lincoln College and Massey University horticultural students combined.

The breakdown in registrations over the Institute's Diplomas for 1980 is as follows:

N.D.H. General	399
N.D.H. Fruit	66
N.D.H. Vegetable	39
N.D.H. Nursery Management	186
N.D. Apiculture	21
Total	711

The Examining Board of the Institute is currently revising the Examinations Approval Notice with the intention of having the updated syllabi gazetted in 1982.

Indications are that there will be a slight reduction in emphasis from botanical subjects to an increase in emphasis in horticultural management subjects.

The Thesis which continues to bother and elude many senior students will be retained. The difficulty in reading and researching to present an acceptable thesis cannot be denied and every effort is being made to offer appropriate assistance to students who do not have ready access to a University for guidance.

Theses for the N.D.H. which have been presented in recent years on a topic of propagation are as follows:

Crooks M R 1974 — Propagation of avocados

Oliver C A 1975 — The Propagation and establishment of *Coriaria pteridiodes*

Reeve J R. 1974 — A study of wood wastes utilisation of bark in horticulture and its possible uses as a growing medium for containerised plants

Small R N 1975 — An investigation into methods currently employed to control damping off in seedlings

Harris G F 1976 — Propagation of cucurbits in soil-less media

Hocking P J 1976 — Effect of hormone/fungicide combinations on the rooting of cuttings

Hills R E 1977 — An investigation into the establishment and operation of an indoor grafting unit within a general nursery

Edwards R A 1978 — An evaluation of wounding and hormone on the rooting of cuttings

The Future. It is obvious that the interest in horticulture will continue for a long time into the foreseeable future. Proof that people have accepted house plants as a permanent feature inside the home can be seen by the buoyant pot plant industry.

Proof that people are staying in their own home sections more than before can be seen by the vitality of the seed and garden centre businesses.

And proof that New Zealand can produce first quality fruit, vegetables, trees, shrubs, cut flowers, mushrooms and other crops yet to come can be seen by the ever-increasing volume of horticultural exports.

The Government now is lending its support in the way of export incentives, rural bank loans plus other incentives to encourage horticultural production. Transport and marketing will be the major problems of the future but provided quality of the product is beyond question, then the world tomorrow will continue to seek our horticultural production.

The Institute of Horticulture will continue to be vigilant in meeting the training needs of the practical horticulturist for it is this person who will be called upon to "produce the goods."

NEW GROUND FOR THE PLANT PROPAGATOR

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We all appreciate the fact that ground or soil is an animate mixture. If cropped ad infinitum it gradually loses its productivity, maybe not particularly noticeable, but it does happen in fact. Consequently, injections of fertilizers and maybe fallows are necessary to improve the nutrient status and "breathing space" or soil structure

So too, with plant propagation. Too often we go about our work as it has been done for years previous seemingly apathetic of the fact that we too are very much part of the cost-price squeeze. Maybe it would do us good to have a "fallow" — to stand back, look at ourselves and inject a new stimulus into our operation.

At this stage it would be useful for us to bear in mind the concept that an individual plant has an inherent capacity to grow, flower or fruit, which is limited by its genetical make-up.